

#### ABSTRACT OF THE DISCLOSURE

The present invention is a decoding device, an encoding device, an interpolation frame creating system, an integrated circuit device, a decoding program and an encoding program capable of creating interpolation frames at a high precision with an improved encoding efficiency. The decoding device includes a decoding section, a motion vector detection section, and an interpolation frame creation section. The decoding section decodes an encoded image signal obtained by encoding image frames which form an image signal and additional information for creating an interpolation frame for interpolating the image frames based on a motion vector which is a motion vector between the image frames. The motion vector detection section detects a motion vector which is a motion vector between decoded image frames. The interpolation frame creation section creates an interpolation frame based on the motion vector, the decoded image frame, and the decoded additional information.